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L4: Entry 1 of 1

File: USPT

Jul 30, 2002

DOCUMENT-IDENTIFIER: US 6427132 B1

TITLE: System, method and article of manufacture for demonstrating E-commerce capabilities via a simulation on a network

US Patent No. (1): 6427132

Brief Summary Text (6):

Indeed, research indicates that data traffic will surpass voice by 10:1 within the next three to five years. Opportunities abound for communication service providers that can either reinvent their business models and service delivery capability or create new business ventures and solutions through alliances with high-tech, media and entertainment companies. Customer demands for new, innovative services, coupled with increasing competition and the blinding growth of the Internet and corporate intranets all create pressure to transform today's telecommunication networks on a global scale.

Brief Summary Text (7):

Communication service providers are favorably positioned to create the infrastructure necessary to support this demand. However, this dramatic convergence of telephony and data-centric technologies calls for radically new strategies to network design and deployment. This "new world" demands that communications companies transform their core network systems from voice-centric circuit-switched platforms to the packet-switched or New World Network.

Drawing Description Text (81):

FIG. 61 illustrates how the NGN Business Simulator utilizes the entire Business Integration Framework by integrating Network <u>Transformation</u> assets with assets from other market offerings;

Detailed Description Text (5):

In today's competitive communications market, keeping customers satisfied is no longer enough; winning customers away from the competition by offering the latest IP services and the lowest prices is now the name of the game. Communications service providers face two challenges as they prepare to enter the next century: (1) increased competition in their core markets and (2) a growing demand for network resources driven by high bandwidth, IP applications. The first requirement calls for service providers to reduce costs and optimize resources; the second requires them to invest in a new infrastructure and expand their service offerings. Reducing costs and increasing revenues are among the value propositions below that are offered by the Network Transformation market offerings.

Detailed Description Text (6):

Communications service providers can reconcile these seemingly conflicting requirements by transforming their networks into a new broadband, next generation network infrastructure. This intelligent, hybrid architecture which efficiently supports both circuit-switched (voice) and packet-switched (data) traffic enables service providers to launch many new broadband data services. Communications service providers can migrate services off their legacy network and consolidate and optimize these services and network resources onto one single packet-based network, thus lowering their costs and increasing the manageability of their overall network transformation.

Detailed Description Text (7):

Network transformation may take on many faces. 1. migration from a circuit-switched to packet-switched network 2. displacement of revenue generating voice services traditionally provided by wireline access by wireless service providers 3. emergence of new value added services over "application tone" versus today's ubiquitous dial tone 4. dependence of the end-customers' business strategy upon their subscribed network services 5. shift to more intelligent self service processes enabling customers to create and manage their own services

Detailed Description Text (8):

FIG. 1 depicts how service providers and businesses can <u>transform</u> to meet these emerging trends in the telecommunications industry.

Detailed Description Text (12):

Despite the fierce competition and the new breed of customers, communications service providers are understandably determined to maintain significant market share. The traditional network infrastructure has served them well in the past. However, to meet the challenges of today and tomorrow they must transform their network infrastructure to a more robust and service independent broadband architecture. With this Next Generation Network, they will not only be able to offer comprehensive services in a more timely fashion, but they will also cut costs, increase profit margins and offer more competitively priced services to their customers. The value added services model (discussed below) confirms this.

Detailed Description Text (13):

The Network Transformation Implementing IP market offering has been created to aid service providers with the transformation of their network. Through use of the network, communications service providers will be to respond decisively to the new demands of the marketplace.

Detailed Description Text (14):

In fact, forward-looking communications service providers are already in the midst of seeking the network architecture of tomorrow. Traditional network architectures have served them well in the past, but to compete for the customer today--and even more so in the future--communications service providers will need to transform their current network to an intelligent, broadband Next Generation Network infrastructure.

Detailed Description Text (60):

The people vision for the NM/MNS include an organization model for customer service support, the corresponding roles and responsibilities for this organization model and a conceptual design for workforce transformation to packet switching.

Detailed Description Text (83):

PSTN, wireless, and cable networks have continued to grow at their organic rates determined by the growth of the vertical services they were providing. In the beginning, the data networks used a small portion of the backbone SONET bandwidth. while PSTN was still the dominant bandwidth user. Due to the exponential growth in IP traffic, the IP based data networks are soon slated to utilize more bandwidth than the PSTN. Also huge technical advances in packet technologies have made it possible to carry traditional voice over IP networks. This has started a move towards the "Next Generation Network (NGN)" where there will be more sharing of common network infrastructure to provide services, and these services will start to become more interoperable. The main thrust of technologies in the "NGN" will be to provide interoperability between the new packet based infrastructure and existing legacy infrastructures. Due to the large investments made in the legacy infrastructure, they will continue to exist for some time, but most new innovations will occur on the packet based infrastructure. Slowly, the parallel networks that were created to serve distinct services will merge to use a common packet based backbone and only differ in how access is provided (wire-line, wireless, cable, satellite). The "NGN" is a transition network which will exist during the transformation from the current "Core" to the "New Core".

Detailed Description Text (86):

Next, the network architecture for the wire-line network as it <u>transforms</u> from "Core" to "NGN" to "New Core" will be described. Followed by architecture for cable, wireless and satellite based access networks.

Detailed Description Text (112):

Determines Subscriber Profile Session requirements such as Bandwidth, Quality Of

Service, Class Of Service Routing preferences based on Priority, Cost, Termination Location Media and Application requirements (Voice Telephone to Video Telephone, Multi-point, text to speech, Fax to E-mail etc.) Content Separation (Example: Tells the intelligent peripheral and protocol converter to separate the Audio stream from the data and video stream on an H.32x call; It may also instruct the protocol converter to process the stream so as to enable this audio stream to be fed to a destination which supports traditional analog voice hence the G.728/9 content from the H.32x session would be converted first to AD/PCM and then sent to a Class 5 circuit based switch and terminated on a circuit switched SS7 network POTS line)

Detailed Description Text (115):

Protocol Conversion (Policy Management) Receives session requirements from Rules database Selects and executes required filters to enable activation, processing and tear-down of sessions Interfaces with existing CORE network to process information across NGN/Extended CORE Filters and Converts signals from SS7/ISDN to TCP/IP/H.323 Converts Signaling data from one format to another (example: G.728/9 to AD/PCM or Vocaltec to Vienna Systems, etc.)

<u>Detailed Description Text</u> (124):

The trends observed in the "NGN" will continue with increased broadband access. Other access methods (cable, satellite, wireless) will also complete their transformation to the "New Core". These will all become IP enabled access technologies that will use the "New Core" for complete set of services, thus really providing seamless services across many different access technologies.

Detailed Description Text (135):

The network transformation plan comprises of the following phases Strategy Market Trial Service Launch Consolidation and Optimization

Detailed Description Text (139):

Develop and launch a market trial that would measure and assess the viability of the introduction of the proposed service. Additionally, this trial validates the approach to transform specific parts of the infrastructure towards the "NGN" and "New Core". The market trial provides the entry-exit criteria, metrics, Key Performance Indicators etc. to assess the success of the market trial.

Detailed Description Text (185):

This embodiment also records timepoints in the epoch time format. The embodiment records the origination time of a call in epoch time format, and the remaining timepoints are offsets, or the number of seconds, from that origination time. This embodiment solves the problems associated with converting to and from daylight savings time because daylight savings time is a local time offset and does not affect the epoch time. Furthermore, the timepoints in epoch time format require less space in the call record than they do in local switch time format.

Detailed Description Text (220):

There are two formulas used to <u>convert</u> local switch time to epoch time and back. i) Epoch Time+(Sign Bit*Time Offset)=Local Switch Time ii) Local Switch Time--(Sign Bit*Time Offset)=Epoch Time

Detailed Description Text (267):

The establishment of a completed path is a prerequisite to the transmission of data for circuit switched networks. After the circuit is in place, the microphone captures analog signals, and the signals are transmitted to the Local Exchange Carrier (LEC) Central Office (CO) in analog form over an analog loop. The analog signal is not converted to digital form until it reaches the LEC CO, and even then only if the equipment is modern enough to support digital information. In an ISDN embodiment, however, the analog signals are converted to digital at the device and transmitted to the LEC as digital information.

Detailed Description Text (347):

In a sensing step 1606, the Proactive Threshold Manager senses the current level of service which is being provided to customers. Protocol converters assist the Proactive Threshold Manager in communicating with various components of the system. Protocol converters are able to translate information between the packet-switched an circuit-switched system components, thus allowing the Proactive Threshold Manager to communicate with all the components of the hybrid system.

Detailed Description Text (401):

Another desirable characteristic for a data mining classifier is its short training time, i.e., the ability to construct the class descriptions from the training set quickly. As a result, the methods of the invention are based on a decision-tree classifier. Decision trees are highly developed techniques for partitioning data samples into a set of covering decision rules. They are compact and have the additional advantage that they can be converted into simple classification rules. In addition, they can be easily converted into Structured Query language (SQL) statements used for accessing databases, and achieve comparable or better classification accuracy than other classification methods.

Detailed Description Text (569):

Build Selling Capabilities for Network Transformation (and OCO) Market Offerings.

Detailed Description Text (571):

Build Delivering Capabilities for Network Transformation (and OCO) Market Offerings.

Detailed Description Text (574):

Communications industry clients' business needs may be addressed by showing: What are the necessary features of the new broadband, intelligent IP-based network in order to efficiently deliver new services that generate revenues. What are the new network management and operations support systems needed to efficiently implement these services. What set of new value-added services that communications clients' could profitably offer to their business and consumer customer base in order to generate additional revenues and reduce costs. These services primarily revolve around eCommerce offerings being developed at the CST. The NT market offering team can choose to integrate with one or more of these eCommerce services in order to showcase NGN capabilities. The current recommended integration is with eCRM offering since it has both business-to-business and business-to-consumer aspects, extensive call center and CRM capabilities, and also very relevant to OCO market offering. eCRM--Demonstrate the broadband consumer lifestyle with personal home pages, portals, value intentions network (MySite!) interacting with back-end business Customer Relationship Management systems (CRM, call center). Value Chain Integration -- Demonstrate how the cross-enterprise interactions might be changed with widespread broadband availability e.g. purchasing is not just catalogs but also multimedia information and consultative sessions; cross-enterprise design groups; dynamic configuration, deployment, monitoring, management, and analysis of entire value chain. Enterprise Transformation -- Business data analysis and simulation to every desktop. Network-aware enterprise applications. Voice-enabled anywhere anytime access to business information systems. Next-generation ERP (XRP). Workgroup Transformation -- Collaboration, virtual teaming environment, telecommuting. Worker Transformation & Human Performance -- Multimedia business simulation and training. Remote workshop capabilities. Remote experts.

Detailed Description Text (578):

The architecture to enable these opportunities are based on: Extensions to the Network Transformation Architecture roadmap and detailed design documents/solution construction kits that are deliverables of the prototype. Detailed design documents of a number of eCommerce architecture initiatives, such as Enterprise Management Internet Architecture (EMIA), Microsoft eCommerce Chemicals/Utilities Enterprise, financial services shared eCommerce infrastructure, etc.

<u>Detailed Description Text</u> (593):

The objective of the Network Prototype is to provide a platform that demonstrates the capability to transform from a circuit-switched environment to a packet-switched infrastructure.

Detailed Description Text (614):

An exemplary NGN prototype showcases multiple technologies, each of which would typically be deployed by different carrier organizations such as cable, ISP and LEC. This approach would demonstrate the ability to implement the various network architectures that the network transformation market offering deliverables define.

Detailed Description Text (669):

A Business Simulator can be a tool used to demonstrate the transformation from a company's current business architecture to the business architecture required to support the company's next generation and new core network environments. The Business Simulator is a component of the Network Transformation Market Offering, providing a showcase and test environment for companies to experience first-hand

Network Transformation knowledge capital and assets.

Detailed Description Text (670):

The objective of the business simulator is to demonstrate the network transformation market offering capabilities and assets that assist carriers' change to be more successful. The business simulator depicts the transformation of a typical Core Network carrier's operating infrastructure to one that utilizes next generation network technology, re-defined organization structures and enhanced people processes to deliver high value business benefits such as new revenues and dramatic operational cost reductions.

<u>Detailed Description Text</u> (673): However, the experience of learning is just one aspect of the NGN Business Simulator. It embodies components that will enable eClients and communications carriers to create Network Enabled Services for the new eEconomy. It can be an integrated business (strategy, process, technology and people) approach for delivering the New World Network. This is because simulating technology alone, in a form of a physical network, can not provide incremental value to clients. To succinctly articulate the impact of eCommerce products and services, there has to be a holistic approach. Clients will want to know the downstream repercussions of making the transformation to NGN. What should be process of provisioning a new network service look like? What supporting systems will be required to assure quality of service? What kind of organizational infrastructure will be needed? These important questions, and many others, will be answered by the NGN Business Simulator and the many services that may be integrated into the Business Simulator.

Detailed Description Text (677):

The NGN Business Simulator utilizes the entire Business Integration Framework by integrating Network Transformation assets with assets from other market offerings as is shown in FIG. 61.

Detailed Description Text (679):

The strategy component for the implementation of the NGN Business Simulator should focus primarily on the following Network Transformation market offering assets: Transformation Approach Business Diagnosis Study Business Architecture Blueprint Release 1.0 and 2.0 Network Creation Process Model MNS/NM deliverables Other Market Offering assets such as of End-to-End, Optimizing Customer Operations

<u>Detailed Description Text</u> (686):

The people component for the implementation of the NGN Business Simulator plays a significant role in answering the following client questions: How will hundreds of engineers be trained and deployed to transform and migrate networks from circuit switching to packet switching? What new skills are needed to develop a packet switching environment? How will the next generation network NOC be organized? How will the Customer Care Center staff be trained and introduced into their new role?

Detailed Description Text (734):

Based on the capabilities within the NGN Business Simulator, various scenarios will be defined that represent an NGN environment. Each of the scenarios will be a mix of capabilities, identifying specific business architecture gaps between clients existing business operating model and the NGN. This approach ensures that the challenges involved in enabling underlying capabilities are clearly accentuated. Moreover, some scenarios may be customized for specific client needs. Towards that end, planning sessions may be conducted with client to `walk through` these capabilities at a Solution Centers such as Teleworks Center in Minneapolis. The overall intent is to articulate to clients a pragmatic transformation approach that leads them to the New World Network.

Detailed Description Text (742):

The real-time billing capability demonstrates the transformation of the OSS/BSS to the Next Generation Network support systems.

Detailed Description Text (743):

This model will be usable by other portfolios to demonstrate the viability of industry transformation and aid the sales of these market offering deliverables across industry and market unit.

Detailed Description Text (749):

As part of the simulation, browsing interactions may be shown between a service

provider and a consumer with access from home to the prototype broadband network. Optionally, one of the capabilities of the prototype broadband network that may be demonstrated is receiving both voice and keyed input and storing the same in a mailbox, and playing back a predetermined length of the voice input and converting a predetermined amount of the keyed input into speech for playback purposes. The following section provides a more detailed description of some of the capabilities of the prototype broadband network.

Detailed Description Text (756):

Detailed notification: For example rather than a page asking the called party to check mailbox; the page or phone notification should say you received 7 messages, 3 urgent from Andre Hughes, Joe Forehand, Bruce Baxter; short subject of the messages (may be the first 10 seconds of the urgent messages played back or converted from Speech to Text or Text to speech; depending on the notification mechanism i.e.: if PDA then speech to text else if Phone or audio aware device convert speech to text and play back on device.

<u>Detailed Description Text</u> (776):

Performance Requirements There is a requirement for full availability during periods of business simulation activity. Due to the time zone differences between nodes this, in effect, results in a high level requirement for 24.times.7 availability. As this requirement is likely to result in an excessive investment in people, this requirement could be reduced, for the first releases of the network fabric where no companies (like e.g. client market trial) will be using the network infrastructure. The resource could then be increased in line with network usage. An appropriate Service Level Agreement can be defined between the Network Transformation market offering client and the party charged with overall maintenance of the network

Detailed Description Paragraph Table (5):

Alliance and Vendor Client Benefits Network Provider Benefits Partner Benefits Learning Tool - The Selling Tool - The NGN Selling Credentials - NGN Business Business Simulator gives The NGN Business Simulator provides clients a glass window Simulator will enable the first tangible view of the first NGN the network providers view of the NGN environment. It also alliances' and vendor environment in a demonstrates the value partners' products to risk-free environ- added services that a be associated with the ment. The network client will be able to first proven solution, showcases the value launch while demonstrating resulting in aggressive added services that the network provider's deployment of their a client will be able implementation and products in the NGN to launch. delivery capabilities. marketplace. "One-Stop-Shop- "One-Stop-Shopping" - Enhanced Image - The ping" - The NGN Since the NGN Business NGN Business Simu- Business Simulator Simulator demonstrates the lator provides direct demonstrates all the assets and solutions from association with the services and all of the network network provider, an capabilities that can provider's Communications innovative business be offered on a next market offerings, it enables integrator, for alliances generation network. clients to see many solu- and vendor partners. Through one-stop- tions in an integrated shopping environ- environment. ment a client can choose the entire solution or specific components. Training - The NGN Training - The NGN Multiple Offerings - Business Simulator Business Simulator can be Since the NGN provides a training used to train the network Business Simulator school for the provider's personnel in may incorporate clients' employees network implementation multiple market offer- to learn how to and delivery of NGN ings, alliances and manage and operate creation, transformation, vendor partners can networks. capabilities and services. leverage their products and investments across many service offer- ings. Pilot Services - Leadership Role - Through Leadership Role - Since the NGN the creation of the NGN Through the creation Business Simulator Business Simulator, the of the first NGN is a testing network provider can Business Simulator, environment, it present itself as an alliances and vendor enables clients to innovative leader who built partners will be launch a new the first next generation regarded as thought service in a risk network operational model. leaders in the free environment. communications industry. Leased Equipment - Build NGN Methodology Future Sales - The The NGN Business and MO Assets - The NGN NGN Business Simu-Simulator enables Business Simulator can lator builds a clients to lease showcase specific BIM relationship between network equipment and project deliverables the network provider instead of buying such as methodologies, and alliances and their own, by link-toolkits, work plans, vendor partners. This ing a client's budgets, and scenario relationship may lead network to the NGN models which can be to future sales (of Business Simulator. leveraged to promote and product) when the execute engagements. NGN network is implemented at a client. Minimized Risk - Since the

Minimized Risk - NGN Business Simulator Since the NGN leverages the knowledge Business Simulator and equipment of other utilizes the network internal the network pro- provider's network vider market offering and skills and resources, selected alliances and it minimizes the vendor partners, it mini- investment of alliances mizes the cost of the NGN and vendor partners. Business Simulator. Future Experimentation - The NGN Business Simu- lator creates an extensible environment for experi- mentation of future the network provider, selected vendor, and client solutions.

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L1: Entry 1 of 1

File: USPT

Mar 28, 2000

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TITLE: Automatic auction method

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INVENTOR-INFORMATION:

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PRIOR-ART-DISCLOSED:

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Search Selected Search ALL

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ART-UNIT: 274

PRIMARY-EXAMINER: Trammell; James P.

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ABSTRACT:

In automatic auction method which makes it unnecessary for bidders to stay before auction terminals at the time of auction and which makes possible auction transactions on an open network on which it is difficult to assure the on-line and real time properties, a plurality of auction ordering information pieces each containing a desired price, number of purchase, and a highest possible price in competition for the desired price and received from bidder terminals via on-line circuits are collected. Until an auction issue appears, the price is lowered. If there is at least one auction issue and a desired quantity which is the sum total of the numbers of purchase of the auction issues is not satisfied, then it is determined whether there is an auction issue coinciding in price by comparing the set price with (the desired price+the highest possible price in competition). Until the desired quantity is satisfied, the price is raised.

16 Claims, 20 Drawing figures

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End of Result Set

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L1: Entry 1 of 1

File: USPT

Mar 28, 2000

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Application Filing Date (1): 19970902

Other Reference Publication (3):

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7/16/03 11:1: